

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1-19. (canceled)

20. (currently amended) A system for enhancing minimally invasive heart surgery, the system comprising:

at least one retractor device for enhancing access to a patient's heart through a first incision;

a heart stabilizing device having a tissue contacting surface and at least one suction aperture adjacent the surface;

a first coupling device for coupling with the heart stabilizing device through a second incision at a location on the patient apart from the first incision, the first coupling device comprising:

an elongate shaft having a proximal end, a distal end, and at least one flexible, rigidifying portion comprising a plurality of pieces and a wire that when tightened locks the pieces of the rigidifying portion into place; and

means for coupling the elongate shaft with the heart stabilizing device adjacent the distal end of the elongate shaft; and

a first flexible arm for coupling the first coupling device with at least one stable object, wherein the first flexible arm comprises a distal clamp configured to clamp the first coupling device, and a proximal clamp configured to clamp the at least one stable object;

a heart positioning device having a tissue contacting surface and at least one suction aperture; and

a second coupling device for coupling with the heart positioning device through a third incision at a location on the patient apart from the first and second incisions.

21. (canceled)

22. (currently amended) A system as in claim 20 [[21]], wherein the second coupling device comprises an elongate shaft having a proximal end, a distal end, and at least one flexible, rigidifying portion comprising a plurality of pieces and a wire that when tightened locks the pieces of the rigidifying portion into place, and means for coupling the elongate shaft with the heart positioning device adjacent the distal end of the elongate shaft.

23. (previously presented) A system as in claim 22, wherein the means for coupling the elongate shaft of the first coupling device comprises a collet or socket for coupling with a ball on the heart stabilizing device, and the means for coupling the elongate shaft of the second coupling device comprises a collet or socket for coupling with a ball on or the heart positioning device.

24. (withdrawn) A system as in claim 23, wherein each of the first and second coupling devices further include a tightening device adjacent the proximal end of the elongate shaft, for tightening the collet or socket around the ball.

25. (withdrawn) A system as in claim 22, wherein the means for coupling the elongate shaft of the first coupling device with the heart stabilizing device comprises a slot for coupling with a surface feature on the heart stabilizing device or the means for coupling the elongate shaft of the second coupling device with the heart positioning device comprises a slot for coupling with a surface feature on the heart positioning device.

26. (withdrawn) A system as in claim 22, wherein the means for coupling the elongate shaft of the first coupling device with the heart stabilizing device comprises threads for coupling with complementary threads on the heart stabilizing device or the means for coupling the elongate shaft of the second coupling device with the heart positioning device comprises threads for coupling with complementary threads on the heart positioning device.

27. (withdrawn) A system as in claim 22, wherein the means for coupling the elongate shaft of the first coupling device with the heart stabilizing device comprises a clamp for coupling with the heart stabilizing device or the means for coupling the elongate shaft of the

second coupling device with the heart positioning device comprises a clamp for coupling with the heart positioning device.

28. (withdrawn) A system as in claim 22, wherein the elongate shaft of the first coupling device comprises at least one flexible joint between the proximal end and the distal end of the elongate shaft of the first coupling device or the elongate shaft of the second coupling device comprises at least one flexible joint between the proximal end and the distal end of the elongate shaft of the second coupling device.

29. (withdrawn) A system as in claim 28, wherein the at least one flexible joint comprises at least one collet or socket and ball joint.

30-31. (canceled)

32. (currently amended) A system as in claim 20 [21], further comprising: a second flexible arm for coupling the second coupling device with the at least one stable object.

33. (original) A system as in claim 32, wherein the first and second flexible arms may be rigidified after coupling the first and second coupling devices with the stable object.

34. (original) A system as in claim 32, wherein the at least one stable object comprises at least one part of an operating room table.

35. (withdrawn) A system as in claim 32, wherein each of the first and second flexible arms comprises:

an elongate arm having a proximal end, a distal end and at least one joint disposed between the proximal end and the distal end;

means near the distal end of the elongate arm for coupling the elongate arm with a coupling device;

means near the proximal end of the elongate arm for coupling the elongate arm with the stable object; and

means for rigidifying the at least one joint of the elongate arm.

36. (withdrawn) A system as in claim 35, wherein the means near the distal end of the elongate arm and the means near the proximal end of the elongate arm each comprises a clamp.

37. (currently amended) A system for enhancing minimally invasive heart surgery, the system comprising:

at least one retractor device for enhancing access to a patient's heart through a first incision;

a heart stabilizing device having a tissue contacting surface and at least one suction aperture adjacent the surface;

a first coupling device for coupling with the heart stabilizing device through a second incision at a location on the patient apart from the first incision, the first coupling device comprising:

an elongate shaft having a proximal end, a distal end, and at least one flexible, rigidifying portion comprising a plurality of pieces and a wire that when tightened locks the pieces of the rigidifying portion into place; and

means for coupling the elongate shaft with the heart stabilizing device adjacent the distal end of the elongate shaft; and

a first flexible arm for coupling the first coupling device with at least one stable object, wherein the first flexible arm comprises a distal clamp configured to clamp the first coupling device, and a proximal clamp configured to clamp the at least one stable object,

as in claim 20, wherein the at least one retractor device comprises:

a retractor frame for movably holding at least two retractor blades;

at least two retractor blades coupled with the retractor frame, for retracting tissue adjacent an incision; and

means for moving the retractor frame so as to move the blades to retract the tissue.

38. (original) A system as in claim 37, wherein each of the at least two retractor blades includes nerve protection means for inhibiting damage to an intercostal nerve when retracting a rib.

39. (original) A system as in claim 37, wherein the means for moving the retractor frame comprises a crank handle.

40. (currently amended) A system for enhancing minimally invasive heart surgery, the system comprising:

at least one retractor device for enhancing access to a patient's heart through a first incision;

a heart stabilizing device having a tissue contacting surface and at least one suction aperture adjacent the surface;

a first coupling device for coupling with the heart stabilizing device through a second incision at a location on the patient apart from the first incision, the first coupling device comprising:

an elongate shaft having a proximal end, a distal end, and at least one flexible, rigidifying portion comprising a plurality of pieces and a wire that when tightened locks the pieces of the rigidifying portion into place; and

means for coupling the elongate shaft with the heart stabilizing device adjacent the distal end of the elongate shaft; and

a first flexible arm for coupling the first coupling device with at least one stable object, wherein the first flexible arm comprises a distal clamp configured to clamp the first coupling device, and a proximal clamp configured to clamp the at least one stable object,

as in claim 20, wherein the heart stabilizing device comprises:

at least one tissue contacting surface;

at least one suction aperture for applying suction force to enhance contact between the tissue contacting surface and heart tissue; and

at least one suction port for connecting with a source of suction.

41-62. (canceled)

63. (currently amended) A system for enhancing minimally invasive heart surgery, the system comprising:

at least one retractor device for enhancing access to a patient's heart through a first incision;

a heart stabilizing device having a tissue contacting surface and at least one suction aperture adjacent the surface;

a first coupling device for coupling with the heart stabilizing device through a second incision at a location on the patient apart from the first incision, the first coupling device comprising:

an elongate shaft having a proximal end, a distal end, and at least one flexible, rigidifying portion comprising a plurality of pieces and a wire that when tightened locks the pieces of the rigidifying portion into place; and

means for coupling the elongate shaft with the heart stabilizing device adjacent the distal end of the elongate shaft; and

a first flexible arm for coupling the first coupling device with at least one stable object, wherein the first flexible arm comprises a distal clamp configured to clamp the first coupling device, and a proximal clamp configured to clamp the at least one stable object,

as in claim 20, further comprising an actuation device coupled with the first coupling device, and

a distal coupling means that couples the coupling device with the heart stabilizing device,

wherein the actuation device can tighten and loosen the distal coupling means.

64-68. (canceled)

69. (currently amended) A system for enhancing minimally invasive heart surgery, the system comprising:

at least one retractor device for enhancing access to a patient's heart through a first incision;

a heart stabilizing device having a tissue contacting surface and at least one suction aperture adjacent the surface;

a first coupling device for coupling with the heart stabilizing device through a second incision at a location on the patient apart from the first incision, the first coupling device comprising:

an elongate shaft having a proximal end, a distal end, and at least one flexible, rigidifying portion comprising a plurality of pieces and a wire that when tightened locks the pieces of the rigidifying portion into place; and

means for coupling the elongate shaft with the heart stabilizing device adjacent the distal end of the elongate shaft; and

a first flexible arm for coupling the first coupling device with at least one stable object, wherein the first flexible arm comprises a distal clamp configured to clamp the first coupling device, and a proximal clamp configured to clamp the at least one stable object,

as in claim 20, wherein the plurality of pieces comprises a plurality of beads.

70-71. (canceled)